

# Mindfulness meditation reduces loneliness, benefits immune system

August 14 2012

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Many elderly people spend their last years alone. Spouses pass and children scatter. But being lonely is much more than a silent house and a lack of companionship. Over time, loneliness not only takes a toll on the psyche but can have a serious physical impact as well.

Feeling lonely has been linked to an increased risk of heart disease, Alzheimer's disease, depression and even premature death. Developing effective treatments to reduce loneliness in older adults is essential, but previous treatment efforts have had limited success.

What to do? Researchers at UCLA now report that a simple meditation program lasting just eight weeks reduced loneliness in [older adults](#). Further, knowing that loneliness is associated with an increase in the activity of inflammation-related genes that can promote a variety of diseases, the researchers examined [gene expression](#) and found that this same form of meditation significantly reduced expression of inflammatory genes.

In the current online edition of the journal *Brain, Behavior and Immunity*, senior study author Steve Cole, a UCLA professor of medicine and psychiatry and a member of the Norman Cousins Center for [Psychoneuroimmunology](#) at UCLA, and colleagues report that the two-month program of mindfulness-based [stress reduction](#) (MBSR), which teaches the mind to simply be attentive to the present and not dwell in the past or project into the future, successfully reduced the feelings of loneliness.

Remarkably, the researchers said, MBSR also altered the genes and [protein markers](#) of inflammation, including the inflammatory marker [C-reactive protein](#) (CRP) and a group of genes regulated by the transcription factor NF-kB. CRP is a potent risk factor for heart disease, and NF-kB is a molecular signal that activates inflammation.

Inflammation is a natural component of the immune system and can help fight a wide variety of bodily insults, ranging from infections to a whack by a hammer. But [chronic inflammation](#) is now known to be a primary player in the pathology of many diseases and psychological disorders.

"Our work presents the first evidence showing that a psychological intervention that decreases loneliness also reduces pro-inflammatory gene expression," Cole said. "If this is borne out by further research, MBSR could be a valuable tool to improve the quality of life for many elderly."

In the study, 40 adults between the ages of 55 and 85 were randomly assigned to either a mindfulness meditation group or a control group that did not meditate. All the participants were assessed at the beginning and the end of the study using an established loneliness scale. Blood samples were also collected at the beginning and end to measure gene expression and levels of inflammation.

The meditators attended weekly two-hour meetings in which they learned the techniques of mindfulness, including awareness and breathing techniques. They also practiced [mindfulness meditation](#) for 30 minutes each day at home and attended a single daylong retreat.

These MBSR participants self-reported a reduced sense of loneliness, while their blood tests showed a significant decrease in the expression of inflammation-related genes.

"While this was a small sample, the results were very encouraging," said Dr. Michael Irwin, a professor of psychiatry at the Semel Institute for Neuroscience and Human Behavior at UCLA and director of the Cousins Center. "It adds to a growing body of research that is showing the positive benefits of a variety of meditative techniques, including tai chi and yoga."

Just last month, for example, Dr. Helen Lavretsky, a UCLA professor of psychiatry and a Cousins Center member, published a study showing that a form of yogic [meditation](#) involving chanting also reduced inflammatory gene expression, as well as stress levels, among individuals who care for patients with Alzheimer's disease.

"These studies begin to move us beyond simply connecting the mind and genome, and identify simple practices that an individual can harness to improve human health," Irwin said.

Provided by University of California, Los Angeles

Citation: Mindfulness meditation reduces loneliness, benefits immune system (2012, August 14) retrieved 27 April 2024 from <https://medicalxpress.com/news/2012-08-mindfulness-meditation-loneliness-benefits-immune.html>

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